Certificate of Design Application

From Designer: MICHAEL F. HAYES

Date: AUGUST 10, 2015

Job Name: ADDITIONS & ALTERATIONS @ 162 E. PROMENADE

Address of Construction: 162 EASTERN PROMENADE, PORTLAND, ME 04101

2009 International Building Code

Construction project was designed to the building code criteria listed below:

Building Code & Year 2009 Use Group Classification (s) R-2

Type of Construction 5B

Will the Structure have a Fire suppression system in Accordance with Section 903.3.1 of the 2009 IRC YES (NFPA 13R)

Is the Structure mixed use? NO If yes, separated or non separated or non separated (section 302.3) N/A

Supervisory alarm System? NO Geotechnical/Soils report required? (See Section 1802.2) N/A

Structural Design Calculations

YES Submitted for all structural members (106.1 – 106.11)

Design Loads on Construction Documents (1603)

Uniformly distributed floor live loads (7603.11, 1807)

Floor Area Use	Loads Shown
COMMON AREAS	100.0 PSF
FLOORS: RESIDENTIAL	40.0 PSF

Wind loads (1603.1.4, 1609)

METHOD 1 Design option utilized (1609.1.1, 1609.6)

110 MPH Basic wind speed (1809.3)

CAT #1.100 Building category and wind importance Factor, I_w table 1604.5, 1609.5)

B Wind exposure category (1609.4)

0.18 Internal pressure coefficient (ASCE 7)

18.0 Component and cladding pressures (1609.1.1, 1609.6.2.2)

25.0 Main force wind pressures (7603.1.1, 1609.6.2.1)

Earth design data (1603.1.5, 1614-1623)

SIMPLIFIED Design option utilized (1614.1)

I Seismic use group ("Category")

.257 & .125 Spectral response coefficients, SDs & SD1 (1615.1)

D Site class (1615.1.5)

NONE Live load reduction

45.0 PSF Roof *live* loads (1603.1.2, 1607.11)

45.0 PSF Roof snow loads (1603.7.3, 1608)

60.0 PSF Ground snow load, P_g (1608.2)

45.0 PSF If P_g > 10 psf, flat-roof snow load P_f

0.9 If P_g > 10 psf, snow exposure factor, C_e

1.0 If P_g > 10 psf, snow load importance factor, I_s

1.0 Roof thermal factor, C_t (1608.4)

N/A Sloped roof snowload, P_s (1608.4)

B Seismic design category (1616.3)

SHEAR WALLS Basic seismic force resisting system (1617.6.2)

6.5 & 4.0 Response modification coefficient, R_I and deflection amplification factor C_d (1617.6.2)

LOAD ANALYSIS Analysis procedure (1616.6, 1617.5)

101 KIPS Design base shear (1617.4, 16175.5.1)

Flood loads (1803.1.6, 1612)

N/A Flood Hazard area (1612.3)

N/A Elevation of structure

Other loads

2,000 # Concentrated loads (1607.4)

N/A Partition loads (1607.5)

N/A Misc. loads (Table 1607.8, 1607.6.1, 1607.7, 1607.12, 1607.13, 1610, 1611, 2404